

20011111.ba v03_n251.bam.20011111

>From ???@??? Sun Nov 11 09:34:45 2001 -0600
Message-Id: <200111111534.fABFYcAi003223@sco.theporch.com>
Date: Sun, 11 Nov 2001 09:33:06 CST
From: Old Tube Radios <boatanchors@theporch.com>
To: Old Tube Radios <boatanchors@theporch.com>
Subject: BOATANCHORS digest 3251

BOATANCHORS Digest 3251

Topics covered in this issue include:

- 1) Need Hickok 123 cardmatic tester help
by plmills@attglobal.net
- 2) Re: What I Thought I Knew About Contactors
by "russ dworakowski" <wb3fau@hotmail.com>
- 3) Want to Buy 810 and 872 Tubes
by "Freeberg, Scott (STP)" <Scott.Freeberg@guidant.com>
- 4) Radar Dish Paint
by Jerry Proc <jerry.proc@sympatico.ca>
- 5) Ferrac Amplifier
by Norm Flasch <flasch@cushy.ece.nwu.edu>
- 6) RE: Ferrac Amplifier
by "Bill Hawkins" <bill@iaxs.net>
- 7) Collins 32v3 HV Cap Lookup & Missing Shields?
by "Larry Louie" <y4562@home.com>
- 8) Collins Parts Needed
by "Gary Harmon" <gharmon@idworld.net>
- 9) Trade Genuine FT-243 Xtal
by W5USM@aol.com
- 10) Trade Peterson Crystal.....
by W5USM@aol.com
- 11) Re: What I Thought I Knew About Contactors
by James Hanlon <knjhanlon@qwest.net>
- 12) RE: What I Thought I Knew About Contactors
by "Bill Hawkins" <bill@iaxs.net>
- 13) Re: What I Thought I Knew About Contactors
by Mike Feher <n4fs@monmouth.com>
- 14) Re: What I Thought I Knew About Contactors
by "Jack Antonio" <dia@dia.reno.nv.us>
- 15) Re: What I Thought I Knew About Contactors
by Edward J Knobloch <k4pf@juno.com>
- 16) FS: GR 1862C Megohmmeter
by "Richard W. Solomon" <w1kszt@tiac.net>
- 17) Re: What I Thought I Knew About Contactors
by "Don Davis" <dxguy@earthlink.net>
- 18) FS: Airborne Radar Xmtrs

- by Paul Thekan <Paul.Thekan@eimac.cpii.com>
19) Re: What I Thought I Knew About Contactors
by Bob Roehrig <broehrig@aurora.edu>
20) WTB Heath DX-100 or DX-100B Cabinet
by "Larry Louie" <y4562@home.com>
21) RE: What I Thought I Knew About Contactors
by "russ dworakowski" <wb3fau@hotmail.com>
22) Re: What I Thought I Knew About Contactors
by JACK M IVERSON <jackiv@juno.com>

Message-ID: <3BEBFB43.7BB8E42D@attglobal.net>
Date: Fri, 09 Nov 2001 09:50:27 -0600
From: plmills@attglobal.net
MIME-Version: 1.0
To: Old Tube Radios <boatanchors@theporch.com>
Subject: Need Hickok 123 cardmatic tester help
Content-Type: text/plain; charset=us-ascii
Content-Transfer-Encoding: 7bit

Hello,

I'm trying to locate a source of cards for a Hickok 123 cardmatic tester....either blank cards or tube test cards. I've gone to the one Hickok web site I could find and e-mailed the site owner at hjstaub@worldnet.att.net but this is no longer a valid e-mail address. Can anyone help with the cards? Or, can anyone help with the correct e-mail address for Mr. Staub?

thanks,
Phil
W5BVB

From: "russ dworakowski" <wb3fau@hotmail.com>
To: Old Tube Radios <boatanchors@theporch.com>
Subject: Re: What I Thought I Knew About Contactors
Date: Fri, 09 Nov 2001 11:03:38 -0500
Mime-Version: 1.0
Content-Type: text/plain; format=flowed
Message-ID: <LAW2-F978olkDTM9wGm0000a46d@hotmail.com>

Hey this is cool, but are onlt talkin' about the solenoid action, wait until you get to those relay contacts! By the way the inrush of current you speak of is often destructive of SS output devices, so there in lies the use of MOVs- that ought open a can of worms! Russ

>From: "Rhett T. George" <rtg@ee.duke.edu>
>Reply-To: rtg@ee.duke.edu
>To: Old Tube Radios <boatanchors@theporch.com>
>Subject: What I Thought I Knew About Contactors
>Date: Wed, 7 Nov 2001 11:43:56 -0500 (EST)

>
> - Greetings -
>

>Many thanks to Lee Hart for a most lucid presentation of contactor opening
>and closing. Here are two more points to ponder over your favorite brew
>this afternoon.

>
>Energy is stored in the magnetic circuit as magnetism (magnetic flux) which
>is maintained by the flow of current. If the current was interrupted and
>had to change from non-zero to zero in an instant, there would be an instan-
>taneous change in energy. The first time derivative of energy is power.
>Begging leave from you mathematicians to do this, the first derivative of
>an instantaneous change is an impulse of finite area and infinite height.
>Practically, this means there is a near-infinite impulse of power which
>lasts an infinitesimal length of time. But long enough to have effect.
>Since the current is known, the voltage must approach infinity. Should
>you still have an ICE of the spark plug variety, this principle is used
>in firing the plug.

>
>Stil thinking on this matter, Lee and others have pointed out that keeping
>the contactor closed takes less current than getting it to close. Use a
>smart circuit to reduce the contactor coil current after 15 milliseconds
>or so. * Now * there is less energy to be gotten rid of when opening the
>contactor.

>
>The second point would be more theoretical except it has the secret of
>why Switched-Reluctance Motors operate. That is, the voltage across an
>inductor is given as follows.

>
>
$$v = d(Li)/dt$$

>
>The voltage depends not only on the change of current but the change of
>inductance. In Lee's fine description of turning off the coil current in
>a contactor, the voltage obtained is due not only to the diminishing
>current
>but also to the subsequent movement of the solenoid armature until the flux
>lines drop to zero. This figures, since mechanical work was done on the
>solenoid armature electrically when the contactor closed, that mechanical
>energy has to be given back electrically when the contactor opens.

>
>This is enough obfuscation. Hope it is useful.

>

> Rhett George
>

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Message-ID: <1D1B8647FA5CD411A02800508BDFD0A002F6900E@stpmsx03.stp.guidant.com>
From: "Freeberg, Scott (STP)" <Scott.Freeberg@guidant.com>
To: Old Tube Radios <boatanchors@theporch.com>
Subject: Want to Buy 810 and 872 Tubes
Date: Fri, 9 Nov 2001 11:35:15 -0600
MIME-Version: 1.0
Content-Type: text/plain;
charset="iso-8859-1"

Hi,

I'm looking to buy a pair of 872's and 810's. Let me know if you have any NOS or used that you are interested in selling. Thanks,

Scott WA9WFA in Saint Paul Minn

Message-ID: <3BEC1709.F939374B@sympatico.ca>
Date: Fri, 09 Nov 2001 12:48:57 -0500
From: Jerry Proc <jerry.proc@sympatico.ca>
MIME-Version: 1.0
To: Old Tube Radios <boatanchors@theporch.com>
Subject: Radar Dish Paint
Content-Type: text/plain; charset=us-ascii
Content-Transfer-Encoding: 7bit

Hello Group,

I seem to have run into a dead end in trying to locate an answer to a specific question. Perhaps some of you who have dealt with radar can shed some light on this.

I've been told that radar dishes are painted with a specialized paint but no one can tell me anything about its formulation.

Is there anything special about this type of paint?

--

Regards,

Jerry Proc VE3FAB
Toronto, Ontario
e-mail: jerry.proc@sympatico.ca
<http://webhome.idirect.com/~jproc/ve3fab>

From: Norm Flasch <flasch@cushy.ece.nwu.edu>
Message-Id: <200111091952.NAA14776@cushy.ece.nwu.edu>
Subject: Ferrac Amplifier
To: Old Tube Radios <boatanchors@theporch.com>
Date: Fri, 9 Nov 2001 13:52:33 -0600 (CST)
MIME-Version: 1.0
Content-Type: text/plain; charset=US-ASCII
Content-Transfer-Encoding: 7bit

While going through some old parts here I came upon two items of interest. They are "Ferrac" (trademark) amplifiers. These are the size of octal tubes, but all metal and heavy. There is the word "airpax" printed within airline wings. They were made in Ft. Lauderdale, Florida. One is a model M5251 with a standard octal plug. The other is a model M1057 with an 11 pin octal style plug.

Any idea what these were used for?

--
Norm Flasch
ECE Teaching Labs Manager
Northwestern University
Evanston, Illinois
847-467-4387

From: "Bill Hawkins" <bill@iaxs.net>
To: Old Tube Radios <boatanchors@theporch.com>
Subject: RE: Ferrac Amplifier
Date: Fri, 9 Nov 2001 16:21:26 -0600
Message-ID: <001301c1696c\$df203960\$290aa8c0@darius>
MIME-Version: 1.0
Content-Type: text/plain;
charset="iso-8859-1"
Content-Transfer-Encoding: 7bit

Just a guess, but they sound like the way I'd describe a magnetic amplifier to be used in a DC servo amplifier. Airpax made choppers to use with tube DC amplifiers, and Ferrac sure sounds like iron core devices. Magamps were used for small signal amplifiers in the 50's in

process control devices made by Foxboro. Any book on servos from that era should have something on them.

Regards,
Bill Hawkins

Message-ID: <002601c1697f\$235c5020\$5dd01118@mrtnz1.ga.home.com>
From: "Larry Louie" <y4562@home.com>
To: Old Tube Radios <boatanchors@theporch.com>
Subject: Collins 32v3 HV Cap Lookup & Missing Shields?
Date: Fri, 9 Nov 2001 19:32:05 -0500
MIME-Version: 1.0
Content-Type: text/plain;
 charset="iso-8859-1"
Content-Transfer-Encoding: 7bit

Need help to lookup hv cap value for the HV door knob Cap at the 4D32 final parasitic choke. Color coded Blue, violet, Black & Green. Appears this cap has completely cracked apart.

Also appears that missing shields on side of bandswitch below final tube, top left off front panel, center bottom and over modulation transformers.

Was just curious about this until I purchase the manual.

Any comments would be appreciated.

Thanks, WB6NYR

From: "Gary Harmon" <gharmon@idworld.net>
To: Old Tube Radios <boatanchors@theporch.com>
Subject: Collins Parts Needed
Date: Fri, 9 Nov 2001 19:28:01 -0600
Message-ID: <LKBBJFJHLNHAIBLNCHMEGENAJLAA.gharmon@idworld.net>
MIME-Version: 1.0
Content-Type: text/plain;
 charset="Windows-1252"
Content-Transfer-Encoding: 7bit

75A-3 (Need the Collins emblem that mounts above the slide rule dial and maybe a 3 kc mechanical filter.)

51S-1 (Need the funky tube shield for the VFO and a better front panel then I have now.)

Thanks for looking. If you can help please let me know.

Very best 73, gary

=====

Gary H. Harmon, Jr.
K5JWK
6302 Robin Forest
San Antonio, TX 78239
(210) 657-1549 h
(210) 884-6926 c
(210) 652-6926 w
(210) 203-1700 p
=====

From: W5USM@aol.com
Message-ID: <25.1df82872.291de005@aol.com>
Date: Fri, 9 Nov 2001 20:42:29 EST
Subject: Trade Genuine FT-243 Xtal
To: Old Tube Radios <boatanchors@theporch.com>
MIME-Version: 1.0
Content-Type: multipart/alternative;
boundary="part1_25.1df82872.291de005_boundary"

--part1_25.1df82872.291de005_boundary
Content-Type: text/plain; charset="US-ASCII"
Content-Transfer-Encoding: 7bit

I have a Texas Crystal era 1950s on 3930 kc/s I'd like to trade for similar,
genuine FT-243 in the 80 or 40 meter GB CW segments.

73 from Bill Smith, W5USM
Shortwave Radio Since 1950

--part1_25.1df82872.291de005_boundary
Content-Type: text/plain; charset=us-ascii
Content-Transfer-Encoding: 7bit

* * * * *
* ---REMAINDER OF MESSAGE TRUNCATED--- *
* This post contains a forbidden message format *
* (such as an attached file, a v-card, HTML formatting) *
* Mail Lists at theporch.com only accept PLAIN TEXT *
* If your postings display this message your mail program *
* is not set to send PLAIN TEXT ONLY and needs adjusting *
* * * * *

--part1_25.1df82872.291de005_boundary--

From: W5USM@aol.com
Message-ID: <f9.125c22b4.291de4f0@aol.com>
Date: Fri, 9 Nov 2001 21:03:28 EST
Subject: Trade Peterson Crystal.....
To: Old Tube Radios <boatanchors@theporch.com>
MIME-Version: 1.0
Content-Type: multipart/alternative;
boundary="part1_f9.125c22b4.291de4f0_boundary"

--part1_f9.125c22b4.291de4f0_boundary
Content-Type: text/plain; charset="US-ASCII"
Content-Transfer-Encoding: 7bit

...genuine 50s era FT-243 on 7175 kc/s for similar genuine FT-243 in the 80
or 40 meter CW band below 3555 or 7055 kc/s.

73 from Bill Smith, W5USM
Shortwave Radio Since 1950

--part1_f9.125c22b4.291de4f0_boundary
Content-Type: text/plain; charset=us-ascii
Content-Transfer-Encoding: 7bit

* * * * *
* ---REMAINDER OF MESSAGE TRUNCATED--- *
* This post contains a forbidden message format *
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* is not set to send PLAIN TEXT ONLY and needs adjusting *
* * * * *

--part1_f9.125c22b4.291de4f0_boundary--

Message-ID: <3BED5685.D25D3C05@qwest.net>
Date: Sat, 10 Nov 2001 09:32:05 -0700
From: James Hanlon <knjhanlon@qwest.net>
MIME-Version: 1.0
To: Old Tube Radios <boatanchors@theporch.com>
Subject: Re: What I Thought I Knew About Contactors
Content-Type: text/plain; charset=us-ascii
Content-Transfer-Encoding: 7bit

Rett George's post on the voltage developed across contactors (including relays) is the reason why relay coils generally have some kind of transient absorbing element or network included across them when they are driven by a solid state device that can't handle high voltage. My favorite is a diode connected directly across the coil in such a direction that it is reverse biased when the coil is energized. When the driver turns off, the coil current has an alternate path to follow through the diode. The voltage across the coil switches polarity and comes up to a value that will allow the diode to turn on, and the coil current decays exponentially to zero with an L/R time constant characteristic of the coil inductance and internal resistance. Without the diode or other network, the voltage across the coil will just build up until something breaks down and allows the current to continue to flow. That breakdown is often destructive.

Jim, W8KGI

From: "Bill Hawkins" <bill@iaxs.net>
To: Old Tube Radios <boatanchors@theporch.com>
Subject: RE: What I Thought I Knew About Contactors
Date: Sat, 10 Nov 2001 13:21:49 -0600
Message-ID: <000001c16a1c\$f1c91400\$290aa8c0@darius>
MIME-Version: 1.0
Content-Type: text/plain;
 charset="iso-8859-1"
Content-Transfer-Encoding: 7bit

Well, one of these days I'm gonna have to set up the experiment. Watch the turn-off voltage holding down the armature and letting it open up.

A backwards diode across the coil will indeed kill the impulse. But as R drops, the time for the field to decay and let go of the armature gets longer. If you are using a relay for keying, you might not want to use a diode.

Back when IBM made computers with vacuum tubes, they also made wire-contact relays for the mechanical operations in card punches and printers, etc. Most of the coils had RC networks to reduce the impulse, where R was about equal to the coil resistance and C was around 0.1 mfd. This allowed low millisecond release times for the relays.

Might work to put the back diode in series with a resistor about equal to the coil resistance, because diodes are cheaper than capacitors these days.

Regards,
Bill Hawkins

-----Original Message-----

From: owner-boatanchors@theporch.com
[mailto:owner-boatanchors@theporch.com]On Behalf Of James Hanlon
Sent: Saturday, November 10, 2001 10:32 AM
To: Old Tube Radios
Subject: Re: What I Thought I Knew About Contactors

Rett George's post on the voltage developed across contactors (including relays) is the reason why relay coils generally have some kind of transient absorbing element or network included across them when they are driven by a solid state device that can't handle high voltage. My favorite is a diode connected directly across the coil in such a direction that it is reverse biased when the coil is energized. When the driver turns off, the coil current has an alternate path to follow through the diode. The voltage across the coil switches polarity and comes up to a value that will allow the diode to turn on, and the coil current decays exponentially to zero with an L/R time constant characteristic of the coil inductance and internal resistance. Without the diode or other network, the voltage across the coil will just build up until something breaks down and allows the current to continue to flow. That breakdown is often destructive.

Jim, W8KGI

Date: Sat, 10 Nov 2001 14:58:48 -0500
From: Mike Feher <n4fs@monmouth.com>
Subject: Re: What I Thought I Knew About Contactors
To: Old Tube Radios <boatanchors@theporch.com>
Message-id: <002401c16a22\$1e54f0c0\$20c5be18@n4fs>
MIME-version: 1.0
Content-type: text/plain; charset=iso-8859-1
Content-transfer-encoding: 7BIT

I think several of you missed what Dr. George was saying. Nobody denies that there is back EMF from any switched inductor and I think we all know how to handle it and protect our equipment from being damaged by it. The problem is that from an academic point of view, the back EMF is not simply $V=L \cdot di/dt$, because in reality for that short instant of time, not only is i changing, but so is L . L is changing because of several reasons, mechanical as well as electrical, and a complete solution, in my opinion, is a fairly complex one. However, for all practical purposes, the $V=L \cdot di/dt$ solution should be more than adequate for us to figure out what we need in terms of protection.

73 - Mike

Mike B. Feher, N4FS
89 Arnold Blvd.
Howell NJ, 07731
(732) 901-9193

Message-ID: <000901c16a24\$83c6df20\$0c3ce4cf@scr274n>
From: "Jack Antonio" <dia@dia.reno.nv.us>
To: Old Tube Radios <boatanchors@theporch.com>
Subject: Re: What I Thought I Knew About Contactors
Date: Sat, 10 Nov 2001 12:15:58 -0800
MIME-Version: 1.0
Content-Type: text/plain;
 charset="iso-8859-1"
Content-Transfer-Encoding: 7bit

Hi all,

In a similar vein to the above thread, but concerning the contacts instead of the coil:

Years ago, I remember seeing a nomograph on the values for the series RC network to place across the contacts of a relay switching a DC circuit. This graph related the values of R and C to the voltage and current being switched.

But, due to all the books and info I've accumulated, I can't find this graph now. Anyone know where I can find one, or tell me what values to use for the RC network for a 550V at 200ma circuit?

The subject of this concerns a Bendix TA-12 transmitter, it works fine except the B+ contacts on the t-r relay have a very-very nasty spark on break, which maybe the cause of a a nasty key click on key up, as well as not being too healthy for the relay.

Thanks

Jack Antonio WA7DIA
dia@dia.reno.nv.us

To: Old Tube Radios <boatanchors@theporch.com>

Cc: boatanchors@theporch.com
Date: Sat, 10 Nov 2001 16:07:37 -0500
Subject: Re: What I Thought I Knew About Contactors
Message-ID: <20011110.160738.23012.0.k4pf@juno.com>
MIME-Version: 1.0
Content-Type: text/plain; charset=us-ascii
Content-Transfer-Encoding: 7bit
From: Edward J Knobloch <k4pf@juno.com>

>Jack Antonio WA7DIA dia@dia.reno.nv.us
>asked about a nomograph
> of preferred series R and C values to protect relay contacts,
> based on open circuit voltage and closed circuit current.

There is a nomograph in the back of the Hallicrafters T.O.
Keyer manual. I have two of the manuals, neither of which
I can find at the moment, due to too much unorganized "stuff."
I am sure that BAMA has it at their web site
(Boat Anchors Manual Archive).

73,
Ed Knobloch k4pf@juno.com

From: "Richard W. Solomon" <w1ksz@tiac.net>
To: Old Tube Radios <boatanchors@theporch.com>
Subject: FS: GR 1862C Megohmmeter
Date: Sat, 10 Nov 2001 16:37:16 -0500
Message-ID: <LOBBJFMMJJCIMDIAGBJLGEMEGHAA.w1ksz@tiac.net>
MIME-Version: 1.0
Content-Type: text/plain;
 charset="iso-8859-1"
Content-Transfer-Encoding: 7bit

Use to check high value resistors and capacitor leakage current.
Comes with original manual (unheated of these days !!).
Test voltages 100 & 500 vdc, Resistance range 0.5 Mohm to
2 Tohm @ 500 v, 0.5 Mohm to 0.2 Tohm @ 100v.
\$40 plus UPS shipping.

73, Dick, W1KSZ

Message-ID: <00bd01c16a3f\$981ce940\$15e8b3d1@hppav>
From: "Don Davis" <dxguy@earthlink.net>
To: Old Tube Radios <boatanchors@theporch.com>

Subject: Re: What I Thought I Knew About Contactors
Date: Sat, 10 Nov 2001 15:29:49 -0800
MIME-Version: 1.0
Content-Type: text/plain;
charset="iso-8859-1"
Content-Transfer-Encoding: 7bit

The correct values depend. Depends upon the series inductance and the current, mostly. The break characteristics of the contacts and the voltage available also have a bearing. This really needs to be determined for each application empirically. We've generated these for all of the popular SL11D (1/2 crystal can) and full crystal can relays for use in aerospace at 5 - 40 volts with varying currents, loads, and series inductances normally found for our hardware. Takes a long time to generate a family of graphs, and results are variable from application to application. For a single application, should only take an hour or so to get reasonable results.73s Don AD6PB

----- Original Message -----

From: "Jack Antonio" <dia@dia.reno.nv.us>
To: "Old Tube Radios" <boatanchors@theporch.com>
Sent: Saturday, November 10, 2001 12:15 PM
Subject: Re: What I Thought I Knew About Contactors

> Hi all,
>
> In a similar vein to the above thread, but concerning the contacts
> instead of the coil:
>
> Years ago, I remember seeing a nomograph on the values
> for the series RC network to place across the contacts of a relay
> switching a DC circuit. This graph related the values of R and
> C to the voltage and current being switched.
>
> But, due to all the books and info I've accumulated, I
> can't find this graph now. Anyone know where I can
> find one, or tell me what values to use for the RC network
> for a 550V at 200ma circuit?
>
> The subject of this concerns a Bendix TA-12 transmitter, it
> works fine except the B+ contacts on the t-r relay have a
> very-very nasty spark on break, which maybe the
> cause of a a nasty key click on key up, as well as not
> being too healthy for the relay.
>
> Thanks
>

> Jack Antonio WA7DIA
> dia@dia.reno.nv.us
>
>

Message-Id: <4.2.0.58.20011110153410.00c0e100@pop3.eimac.cpii.com>
Date: Sat, 10 Nov 2001 15:41:06 -0800
To: Old Tube Radios <boatanchors@theporch.com>
From: Paul Thekan <Paul.Thekan@eimac.cpii.com>
Subject: FS: Airborne Radar Xmtrs
Mime-Version: 1.0
Content-Type: text/plain; charset="us-ascii"; format=flowed

Hello to the group

I have 1 ea of the following , T-85 APT5 , T-75 APT4 and T-179 ART-6. I do not know their value so let me know what you want to pay. They have been in storage and have scuffed paint on the cabinets , dings and appear to be complete and unmolested. I can give more detailed information as required.

Thank you
Paul

Date: Sat, 10 Nov 2001 18:59:17 -0600 (CST)
From: Bob Roehrig <broehrig@aurora.edu>
To: Old Tube Radios <boatanchors@theporch.com>
cc: Old Tube Radios <boatanchors@theporch.com>
Subject: Re: What I Thought I Knew About Contactors
Message-ID: <Pine.OSF.4.31.0111101856390.14456-1000000@students.aurora.edu>
MIME-Version: 1.0
Content-Type: TEXT/PLAIN; charset=US-ASCII

On Sat, 10 Nov 2001, Jack Antonio wrote:

> Years ago, I remember seeing a nomograph on the values
> for the series RC network to place across the contacts of a relay
> switching a DC circuit. This graph related the values of R and
> C to the voltage and current being switched.

The December 6 1970 issue of Electronic Design is the copy I have.

> Anyone know where I can
> find one, or tell me what values to use for the RC network
> for a 550V at 200ma circuit?

According to what I figure in your case, use a .05 to .1uf cap and a 22 to 27 ohm resistor.

73 Bob Roehrig K9EUI
Aurora University Telecom/IS dept.
630-844-4898 broehrig@aurora.edu

Message-ID: <006601c16a50\$22d38520\$5dd01118@mrtzn1.ga.home.com>
From: "Larry Louie" <y4562@home.com>
To: Old Tube Radios <boatanchors@theporch.com>
Subject: WTB Heath DX-100 or DX-100B Cabinet
Date: Sat, 10 Nov 2001 20:28:13 -0500
MIME-Version: 1.0
Content-Type: text/plain;
 charset="iso-8859-1"
Content-Transfer-Encoding: 7bit

Anyone have one spare to their needs and want to part with it? The DX-100 cabinet is grey/brown color. What is the color of the DX-100B cabinet?

Thanks

From: "russ dworakowski" <wb3fau@hotmail.com>
To: Old Tube Radios <boatanchors@theporch.com>
Subject: RE: What I Thought I Knew About Contactors
Date: Sun, 11 Nov 2001 10:09:28 -0500
Mime-Version: 1.0
Content-Type: text/plain; format=flowed
Message-ID: <LAW2-F535XL2mtDct3s0000ad3b@hotmail.com>

Bill, I work in a place where there is constant use of power relays. They are used to control heat in on an extruder barrell[injection molding] There are several heat zones per barrel. There are controllers with thermocouples and the process turns the contactor coils on and off. There are RC suppressors installed on the newer solid state output machinery. They are .01 cap in series with 500 ohm resistors connected across the coils. they do a good job. On some of these contactors, the back EMF is sufficient enough to burn out a small relay contact or output triac. We have some unique mercury displacement types- but the inrush on these is real high. The trade off is the contacts are constantly washed off, so the life expectancy is very high. However, in time they will hang up due to residual magnetism. When that happens, I remove them and run them accross a demagnetizing table. Reinstall them, and they work OK again. Older machinery used 120vac coils. Newer equipment uses 24vdc. Lower voltage seems to be less trouble. In the days before PLCs, Allen-

Bradley ruled with their 700 series relays- stuff lasted about 20 years.
Russ

>From: "Bill Hawkins" <bill@iaxs.net>

>Reply-To: <bill@iaxs.net>

>To: Old Tube Radios <boatanchors@theporch.com>

>Subject: RE: What I Thought I Knew About Contactors

>Date: Sat, 10 Nov 2001 13:21:49 -0600

>

>Well, one of these days I'm gonna have to set up the experiment.

>Watch the turn-off voltage holding down the armature and letting
>it open up.

>

>A backwards diode across the coil will indeed kill the impulse.

>But as R drops, the time for the field to decay and let go of

>the armature gets longer. If you are using a relay for keying,

>you might not want to use a diode.

>

>Back when IBM made computers with vacuum tubes, they also made

>wire-contact relays for the mechanical operations in card punches

>and printers, etc. Most of the coils had RC networks to reduce

>the impulse, where R was about equal to the coil resistance and

>C was around 0.1 mfd. This allowed low millisecond release times

>for the relays.

>

>Might work to put the back diode in series with a resistor about

>equal to the coil resistance, because diodes are cheaper than

>capacitors these days.

>

>Regards,

>Bill Hawkins

>

>-----Original Message-----

>From: owner-boatanchors@theporch.com

>[mailto:owner-boatanchors@theporch.com]On Behalf Of James Hanlon

>Sent: Saturday, November 10, 2001 10:32 AM

>To: Old Tube Radios

>Subject: Re: What I Thought I Knew About Contactors

>

>

>Rett George's post on the voltage developed across contactors (including

>relays) is the reason why relay coils generally have some kind of

>transient absorbing element or network included across them when they

>are driven by a solid state device that can't handle high voltage. My

>favorite is a diode connected directly across the coil in such a

>direction that it is reverse biased when the coil is energized. When

>the driver turns off, the coil current has an alternate path to follow

>through the diode. The voltage across the coil switches polarity and
>comes up to a value that will allow the diode to turn on, and the coil
>current decays exponentially to zero with an L/R time constant
>characteristic of the coil inductance and internal resistance. Without
>the diode or other network, the voltage across the coil will just build
>up until something breaks down and allows the current to continue to
>flow. That breakdown is often destructive.
>
>Jim, W8KGI
>

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To: Old Tube Radios <boatanchors@theporch.com>
Cc: boatanchors@theporch.com
Date: Sun, 11 Nov 2001 09:30:48 -0600
Subject: Re: What I Thought I Knew About Contactors
Message-ID: <20011111.093244.-259783.0.jackiv@juno.com>
MIME-Version: 1.0
Content-Type: text/plain; charset=us-ascii
Content-Transfer-Encoding: 7bit
From: JACK M IVERSON <jackiv@juno.com>

RELAY HANG UP reverse the coil leads. this should cure your hangup due
to residual magnetism. old jack

On Sun, 11 Nov 2001 10:09:28 -0500 "russ dworakowski"
<wb3fau@hotmail.com> writes:
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> >Date: Sat, 10 Nov 2001 13:21:49 -0600
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> >Subject: Re: What I Thought I Knew About Contactors
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>
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>

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